REMARKS

Claims 14-26 are pending in the present Application whereas Claims 1-13 and 27-31 have been withdrawn as a result of an earlier Restriction Requirement. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. § 102(b)

A. Claims 14, and 16-18 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Turner (US 5,939, 866). Applicants respectfully traverse this rejection.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Claim 14 is directed to a material detection system, comprising, *inter alia,* a flow path configured to contain a medium of interest in which solid material is to be detected; and an impedance measuring device for measuring an impedance value of an electromagnetic circuit, said electromagnetic circuit including said flow path therein, wherein said impedance value corresponds to an amount of solid material within said medium of interest.

Turner fails to disclose at least these features. First, Turner is not directed to a material detection system. Rather Turner is directed to a plasma monitoring and control system. A plasma monitoring and control system is not the same as a material detection system, where the solid material being detected has been specifically defined in paragraph [0025] of the application. Because Turner is directed to a plasma monitoring and control system, there is no disclosure wherein said impedance value corresponds to an amount of solid material within said medium of interest. Moreover, Turner's plasma monitoring system functions by sensing the voltage of a radio frequency power source that is directed into a plasma producing gas at an input of a plasma producing environment. Full load impedance is measured and used in determining "chuck and wafer impedances, Z1, the discharge and sheath impedances within process chamber 20, Z2, the primary ground path impedance, Z3, and the secondary ground impedance, Z4." There is no disclosure of a material detection system, wherein said impedance value corresponds to an

amount of solid material within the medium of interest. Additionally, it is further noted that in the same column 3 referenced in the Office Action, Turner describes its system as an electronic device fabrication reactor (process chamber). In contrast, Applicants describe an invention that is distinct from the process chamber in that it is downstream of the process chamber, i.e., processes exhaust gas.

In view of the forgoing, the rejection is requested to be withdrawn.

B. Claims 19, 22, 23, and 26 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Tretola (US 4,207,137). Applicants respectfully traverse this rejection.

Claim 19 features, *inter alia*, an upstream electromagnetic source and a downstream electromagnetic source. The downstream source is configured to excite an exhaust gas downstream of the workpiece; and includes an impedance measuring device for measuring an impedance value of an electromagnetic circuit, the electromagnetic circuit including the exhaust gas therein, wherein said impedance value corresponds to an amount of solid material within said exhaust gas.

Tretola fails to teach at least these features since Tretola discloses systems that include a single electromagnetic source for endpoint detection. There is no disclosure of the downstream electromagnetic source as claimed. Additionally, Applicants' endpoint detection is markedly different in terms of function and the impedance characteristics are generally dependent on reactive gas species or the reactive byproducts (again a gas, which happens to be SiF4 in this case, as described in col 5, lines 30-33). This is not the same as the systems and methods described by Tretola.

In view of the forgoing the rejection is requested to be withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a)

A. Claim 15 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Turner. Applicants respectfully traverse this rejection.

Turner is discussed above.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

For reasons discussed above, Turner fails to teach or suggest a material detection system. Rather, Turner is directed to a plasma monitoring and control system, which is markedly different in terms of configuration and function.

In view of the foregoing, the rejection is requested to be withdrawn.

B. Claims 20 and 21 stands rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Tretola as applied to claim 19, and further in view of Turner. Applicants respectfully traverse this rejection.

Turner and Tretola are discussed above.

Neither reference teaches or suggests an upstream electromagnetic source and a downstream electromagnetic source as claimed by Applicants.

Accordingly, a prima facie case of obviousness has not been established and the rejection should be withdrawn.

It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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